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Sophisticated marine research site

Lab may affect offshore drilling

DUXBURY — When offshore oil drilling begins off the New England coast later this year, the research of a Duxbury laboratory could come to play a major role in how it proceeds.

You'd never guess it from looking at the eight clapboard buildings that look nearly the same as the other houses on the bay side of Washington Street. But inside, there are simulated sea environments and tanks of oil-polluted waters.

They are the tools associated with some of the most sophisticated marine research in the world — particularly in assessing the effects of toxic and hazardous materials on living organisms.

"We analyze blood and tissue. What we do parallels medical research, but instead of using mice, we use marine organisms," said Dr. Anthony Graffeo, director of the lab.

The facility employs 27, including Graffeo and six other specialists in ecology, toxicology and chemistry.

"We have just won a slew of grants, including two from the National Science Foundation. They are prestigious. The grants are very difficult to get," said Graffeo.

One of the two projects will be done jointly with six other organizations, including the Scripps Oceanographic Institute and Texas A & M University. It is called the PRIMA program, which is an acronym for Pollution-Response in Marine Animals, a research project to develop new methods for measuring marine stress.

The lab also has won a grant from Exxon to determine the biological effect of oil on a simulated Georges Bank environment. Several of the buildings contain continuous flowing seawater systems for research investigation.

The lab also has a contract for a U.S. Environmental Protection Agency project, studying the effects of drilling fluids — used to lubricate the drills and released on the drilling platforms — on organisms.

And, it just won a National Oceanic and Atmospheric Administration grant to study the biological effect of dispersed oil.

Seven companies have received permits for exploratory drilling off Georges Bank. The drilling could begin as early as August, and potentially produce oil slicks.

"There is a new method, the use of chemical dispersants, to break up oil spills. But there is concern among the scientific community over whether dispersing oil is any more or less harmful than non-dispersed oil," Graffeo said.

The Duxbury lab is affiliated with Battelle olumbus (Ohio) Laboratories and with Battelle Memorial Institute, a private not-for-profit scientific and research development organization.

Like its parent, Clapp Laboratories has done work all over the world.

One scientist just returned from Saudi Arabia, where he studied the effects of oil spills on Red Sea corals. The Saudis were concerned about the harmful effects of technology on the famous corals.

But oil spills aren't the lab's only concern. Its studies have also included effects of municipal sewer outfalls, such as in Boston Harbor, and nuclear power plant discharges.

In the fall the lab hopes to work with Duxbury school children, helping them gain a greater appreciation for the marine environment and understanding of pollution research.

Duxbury harbor is "fairly clean" because of lack of industrial pollutors. It is therefore used as a control in many of the labs experiments.

The dumping of waste into the ocean is a critical issue which will be addressed in the next several years, Graffeo predicted.

"The National Advisory Committee on Oceans and Atmosphere, a special committee set up by the President, recommended in its report that ocean disposal ought to be considered as an alternative to land disposal.

"The ocean and its contents is a resource out there that wants to be used by a lot of people. It is a resource of natural minerals which the mineral companies want to mine It is a resource of oil which the oil companies want to extract . It is a resource of fisheries. It is a resource for storing hazardous waste And, it is a recreational resource

"The question is, how do you manage it so you please a lot of people, but so you don't destroy it or interfere with the other users?

Staff photo by Tom Tajima

Dr. Anthony Graffeo, director of Clapp Laboratories in Duxbury, goes over pollution test results with a colleague.

Duxbury

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